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Complete Specification Left, 6th July, 1904—Accepted, 11th Aug., 1904

PROVISIONAL SPECIFICATION.

An Improved Inhaler for Administering Anaesthetics.

I, JOSEPH LOBJOIS, of 35 Alfred Place, Bedford Square, in the County of London, Merchant, do hereby declare the nature of this invention to be as follows:—

This invention for an improved inhaler for administering anaesthetics has
5 for its object to provide an inhaler into which the anaesthetic can be readily introduced either in just sufficient quantity to induce narcosis or for prolonged anaesthesia, and economically and successfully administered therefrom together with the necessary amount of air required by the patient; and comprises a tube or hollow angle piece provided with an opening for the introduction of a bulb or
10 tube containing the anaesthetic, a stopper arranged to close said opening and hold the bulb in position, an eccentric or other device mounted in the angle piece for breaking off the lower end of the bulb or tube to release the anaesthetic and controlled by a lever, an air inlet slot adapted to be closed by the said lever as it is moved to break the bulb and opened by moving the lever in the reverse
15 direction, a face piece fixed to one end of the angle piece and adapted to make a hermetic connection between the angle piece and the respiratory organs of the patient, a gauze cage containing absorbent material detachably affixed to the other end of the angle piece and an india-rubber bag connected to the cage.

In one way of carrying out this invention, a celluloid face piece with a
20 pneumatic pad is employed and is screwed on to one end of the metal angle piece. The other arm of the angle piece receives the tube or bulb through an inlet or mouth piece formed at the angle as a continuation of said arm. A cap adapted to fit the mouth piece is formed hollow to receive the upper end of a glass bulb or tube of chloride of ethyl for instance, the cap and tube being
25 then plugged into the angle piece. Adjacent to the lower end of the inserted glass tube or bulb the lever is mounted by means of which the lower end of the tube can be easily broken off allowing the anaesthetic to fall on the absorbent material contained in the cage which is fixed by a bayonet joint to the lower end of the arm and directly below the inserted tube or bulb. The air inlet
30 opening is closed or regulated by a suitable slide connected with the lever.

A small gauze cup is inserted in the arm above the cage to catch the pieces of broken glass to prevent them falling into the absorbent material. The india-rubber bag is connected to the cage mount and encloses the cage.

When the apparatus is used in cases of prolonged anaesthesia, the anaesthetic
35 can be poured in from a large tube through the mouth of the angle piece without removing the face piece from the patient's face.

In use the bulb of ethyl chloride or the like having been introduced, when
40 applying the face piece the patient blows a little into the bag, the operator then actuates the lever closing the air slot, breaking at the same time the point of the bulb. Should it be necessary to admit air the lever is reversed to again open the slot.

Dated this 6th day of October, 1903.

WHEATLEY & MACKENZIE,
40 Chancery Lane, London, W.C.
Agents.

[Price 8d.]

Lobjois's Improved Inhaler for Administering Anaesthetics.

COMPLETE SPECIFICATION.

An Improved Inhaler for Administering Anaesthetics.

I, JOSEPH LOBJOIS, of 35 Alfred Place, Bedford Square, in the County of London, Merchant, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

This invention for an improved inhaler for administering anaesthetics has 5
for its object to provide an inhaler into which the anaesthetic can be readily introduced either in just sufficient quantity to induce narcosis or for prolonged anaesthesia, and economically and successfully administered therefrom together with the necessary amount of air required by the patient; and comprises a tube or hollow angle piece provided with an opening for the introduction of a bulb 10
or tube containing the anaesthetic, a stopper arranged to close said opening and hold the bulb in position, an eccentric or other device mounted in the angle piece for breaking off or opening the lower end of the bulb or tube to release the anaesthetic and controlled by a lever, an air inlet slot adapted to be closed by said lever as it is moved to break the bulb and opened by moving 15
the lever in the reverse direction, a face piece fixed to one end of the angle piece and adapted to make a hermetic connection between the angle piece and the respiratory organs of the patient, a gauze cage containing absorbent material detachably affixed to the other end of the angle piece, and an india-rubber bag connected to the cage. 20

In one way of carrying out this invention, a celluloid face piece with a pneumatic pad is employed and is screwed on to one end of the metal angle piece. The other arm of the angle piece receives the tube or bulb through an inlet or mouth piece formed at the angle as a continuation of said arm. A cap adapted to fit the mouth piece is formed hollow to receive the upper end of a 25
glass bulb or tube of chloride of ethyl for instance, the cap and tube being then plugged into the angle piece. Adjacent to the lower end of the inserted glass tube or bulb the lever is mounted by means of which the lower end of the tube can be easily broken off allowing the anaesthetic to fall on the absorbent material contained in the cage which is fixed by a bayonet joint to the lower 30
end of the arm and directly below the inserted tube or bulb. The air inlet opening is closed or regulated by a suitable slide connected with the lever.

A small gauze cup is inserted in the arm above the cage to catch the pieces of broken glass to prevent them falling into the absorbent material. The india-rubber bag is connected to the cage mount and encloses the cage. 35

When the apparatus is used in cases of prolonged anaesthesia, the anaesthetic can be poured in from a large tube through the mouth of the angle piece without removing the face piece from the patient's face.

In use the bulb of ethyl chloride or the like having been introduced, when applying the face piece the patient blows a little into the bag, the operator 40
then actuates the lever closing the air slot, breaking at the same time the point of the bulb. Should it be necessary to admit air the lever is reversed to again open the slot. By this device the anaesthetic is administered entirely within the apparatus.

In the accompanying two sheets of illustrative drawings:— 45

Fig. 1 is a sectional elevation of an apparatus constructed according to this invention suitable for administering chloride of ethyl or other similar narcotic,

Fig. 2 is a sectional plan of the same,

Figs. 3 and 4 are similar views to Figs. 1 and 2 showing a modified form of

Lobjois's Improved Inhaler for Administering Anaesthetics.

apparatus suitable for administering chloride of ethyl either alone or with nitrous oxide gas, and

Figs. 5 and 6 are details of the controlling apparatus.

The usual celluloid face piece *a* with the detachable pneumatic pad *b* is screwed
 5 or otherwise detachably secured to the horizontal arm of the metal T-piece *c*. The upper vertical arm of the T-piece *c* is provided with a removable socket piece or cap to allow of the ready insertion of a tube of ethyl chloride into the T-piece. The nozzle of the tube of ethyl chloride rests in a central hole *d*
 10 in a cross bar fixed on the lower end of a tube *e* adapted to rotate in the T-piece and having an operating handle *f* passing through a slot in the T-piece. The nozzle breaking bar *g* is pivotted at one end to the cross bar and at its other end to the fixed bracket *h*. On rotating the tube *e* by the handle *f* the breaking bar *g* is passed across the hole *d* and smashes off the nozzle of the tube of ethyl chloride is such be inserted in place. Instead of breaking
 15 the tube, the tube may be closed by a valve and the lever arranged to open and close the valve, the tube may be graduated. The tube *e* is provided with a hole *i* adapted to register with a corresponding hole in the T-piece in one position of the handle *f*. A gauze strainer *l* is screwed into the lower end of the cross piece and serves to catch the broken glass.

20 A cage *m* is also secured by a bayonet joint on the lower end of the T-piece and serves to receive absorbent material such as loose cotton wool. A rubber bag *n* is detachably fixed on the cage *m*.

A bulb or tube of chlorethyle is inserted in the top of T-piece so that the nozzle passes through the central hole. The controlling lever is operated to open
 25 the air valve to admit air. The face piece is applied to the patient and after three or four inhalations of air have been made the position of the controlling lever is reversed breaking or opening the tube as previously described, the contents of which will flow on the absorbent material, and the patient will breathe the anaesthetic in or out of the bag. Should it be necessary to admit air,
 30 reverse the position of the lever which will again open the air slot; this can be performed as often as required.

In the modification shown in Figs. 3 to 6 the lever *f* serves only to break the nozzle of the tube of chloride of ethyl there being no air inlet in the tube *e* to which this lever is attached. The central body of the T-piece consists of two
 35 concentric cylinders and is fitted at its upper end with two concentric sleeves *v o* with its operating handle *p* and with the valved outlet *s*. The sleeves *v o* and handle *p* clearly shown in elevation and inverted plan in Figs. 5 and 6 are mounted to rotate in the T-piece being held therein by a screw *y* which engages in a slot *z* in the sleeve *v*. The outer sleeve *v* rotates in
 40 the outer cylinder and the sleeve *o* on the inner cylinder. The sleeve *v* is provided with an opening *r* adapted to correspond with an opening in the T-piece so that the patient breathes direct into the atmosphere. In another position of the lever a hole in the inner sleeve *o* is opposite a hole in the inner cylinder that communicates with the gas bag. The hole in the sleeve is provided
 45 with a valve *t* opening outwards. In this position the patient draws in from the bag through the valve *t* and expires through the outlet *s*. A click *q* on the sleeve *v* indicates when this position is reached. In the third position of the lever the hole *u* in the sleeve *o* is opposite a hole *w* in the central cylinder and at the same time a depending piece *x* on sleeve *v* closes outlet *s* so that the patient breathes
 50 direct from and into the bag. The bag is also provided with an inlet cock.

The bag is filled with nitrous oxide and when full the face piece is applied. The sleeves are first turned so that the patient breathes atmospheric air and afterwards so that he breathes from the bag and expires into the atmosphere. After sufficient nitrous oxide has been given, the lever *f* is operated to break
 55 off the nozzle of the tube of ethyl chloride and the sleeves are turned so that the patient breathes from and into the bag.

Lobjois's Improved Inhaler for Administering Anaesthetics.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An inhaler for administering anaesthetics provided with means whereby the anaesthetic can be introduced in sealed or closed bulbs or tubes and the tubes subsequently broken or opened at the moment when the anaesthetic situated within the apparatus is to be administered. 5

2. An inhaler comprising a tube or hollow angle piece provided with an opening for the introduction of a bulb or tube containing the anaesthetic, a stopper arranged to close said opening and hold the bulb in position, an eccentric or other device mounted in the angle piece for breaking off or opening the lower end of the bulb or tube to release the anaesthetic and controlled by a lever, an air inlet slot adapted to be closed by said lever as it is moved to break or open the bulb and opened by moving the lever in the reverse direction, a face piece fixed to one end of the angle piece and adapted to make a hermetic connection between the angle piece and the respiratory organs of the patient, a gauze cage containing absorbent material detachably affixed to the other end of the angle piece and an india-rubber bag connected to the cage. 10 15

3. An inhaler comprising a tube or hollow angle piece provided with an opening for the introduction of a bulb or tube containing the anaesthetic, a stopper arranged to close said opening and hold the bulb in position, an eccentric or other device mounted in the angle piece for breaking off or opening the lower end of the bulb or tube to release the anaesthetic and controlled by a lever, a face piece fixed to one end of the angle piece and adapted to make a hermetic connection between the angle piece and the respiratory organs of the patient, a gauze cage containing absorbent material detachably affixed to the other end of the angle piece and an india-rubber bag connected to the cage, valves in the tube or hollow angle piece whereby the patient can breathe atmospheric air, or breathe out of the bag into the air, or breathe out of and into the bag. 20 25 30

4. The improved inhaler substantially as described with reference to Figs. 1 and 2.

5. The improved inhaler substantially as described with reference to Figs. 3, 4, 5 and 6.

Dated this 5th day of July, 1904.

WHEATLEY & MACKENZIE
40 Chancery Lane, London, W.C. Agents.



[This Drawing is a reproduction of the Original on a reduced scale]

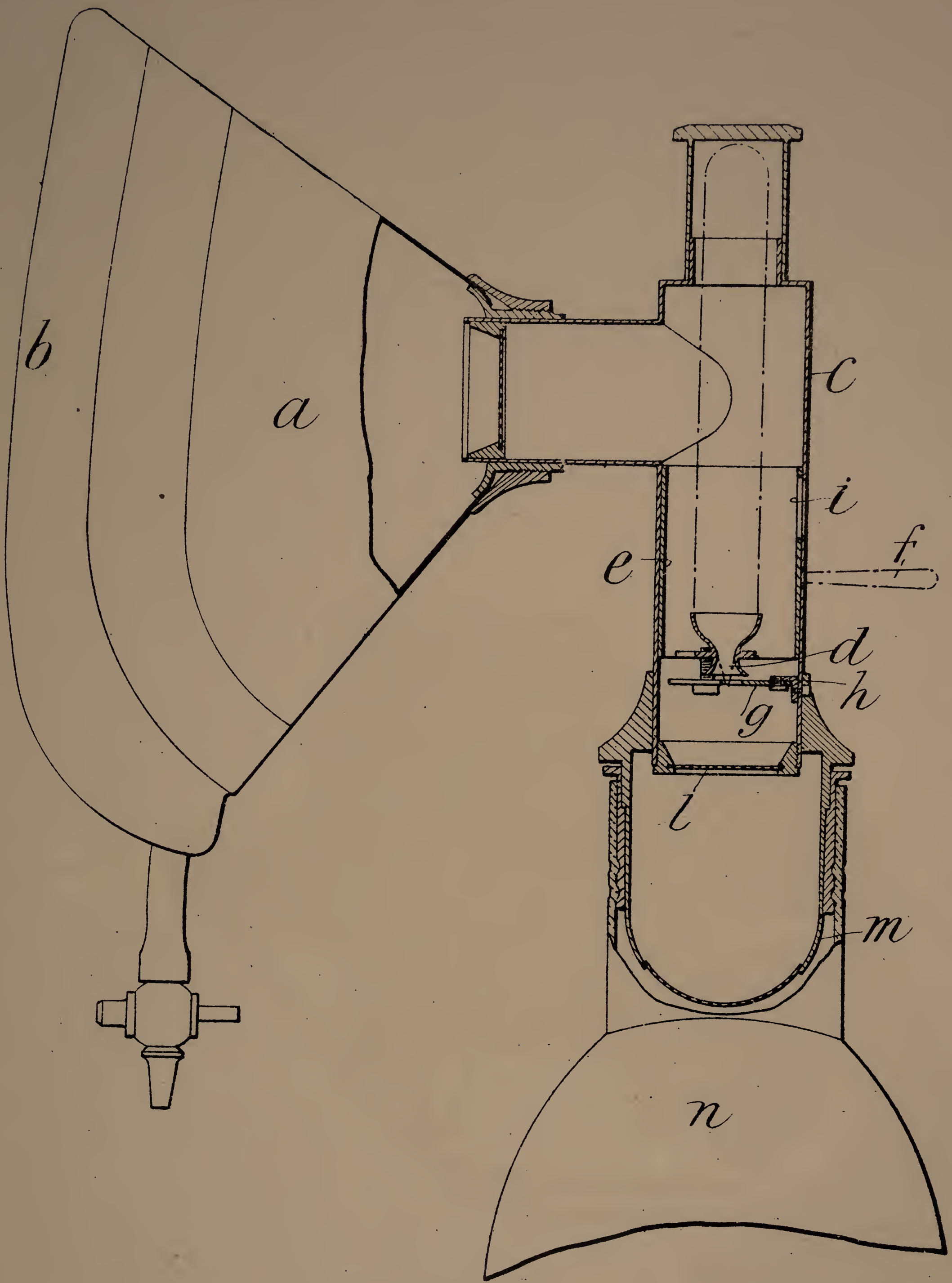
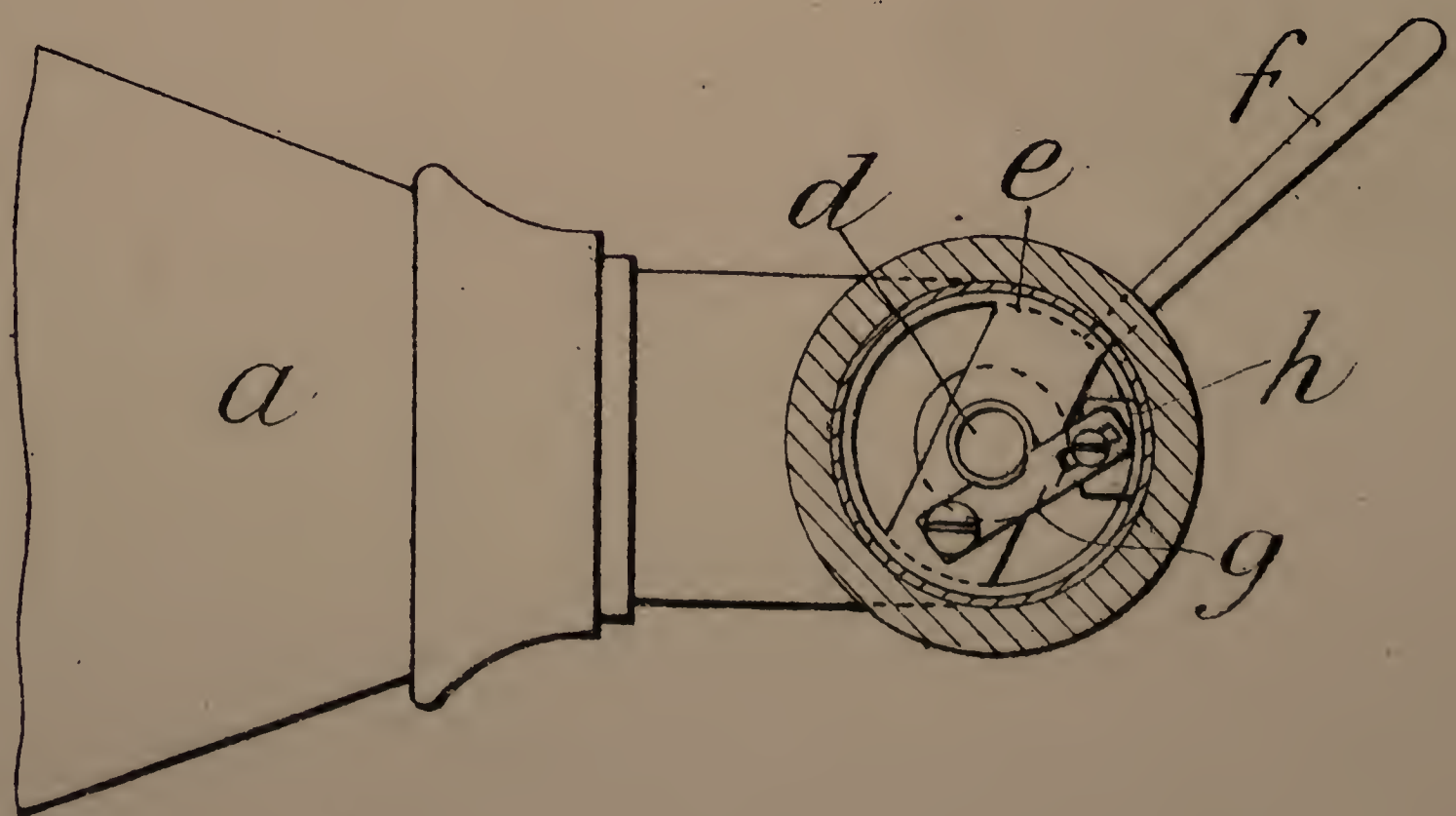
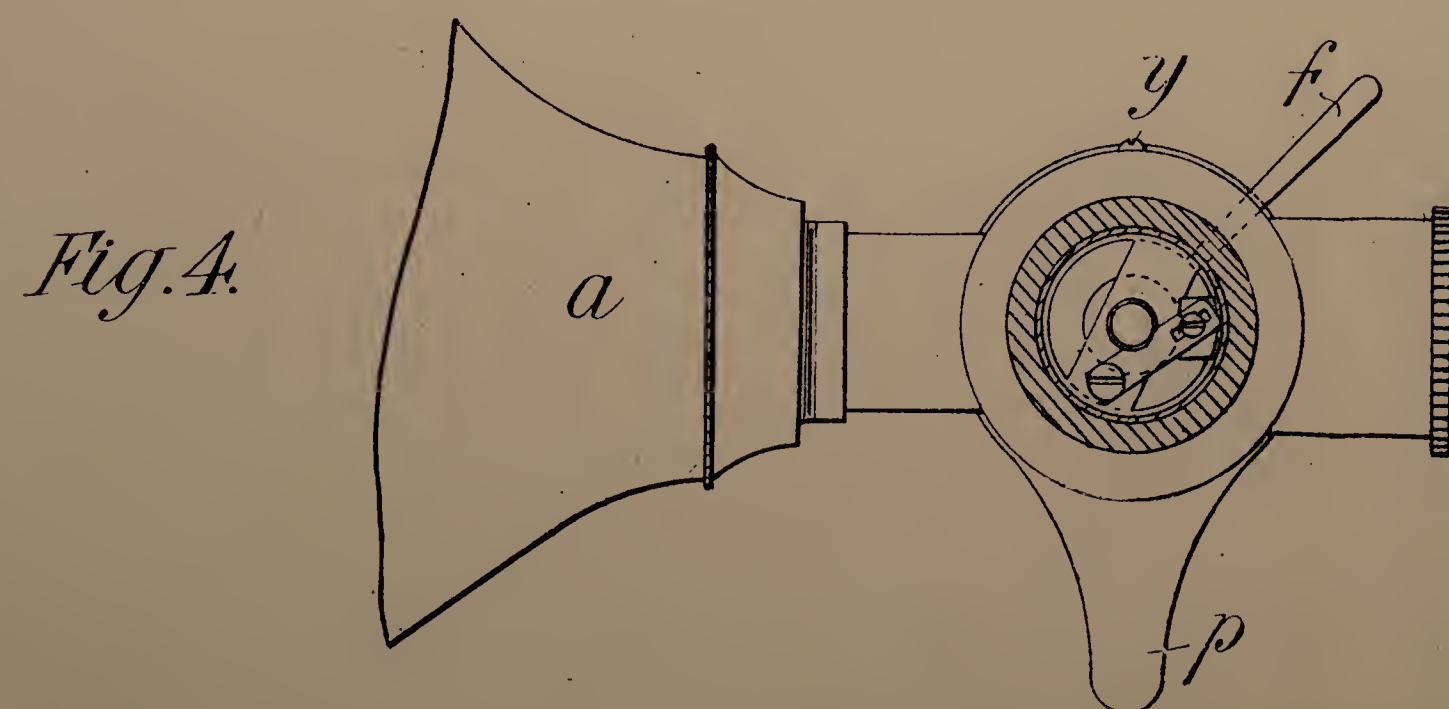
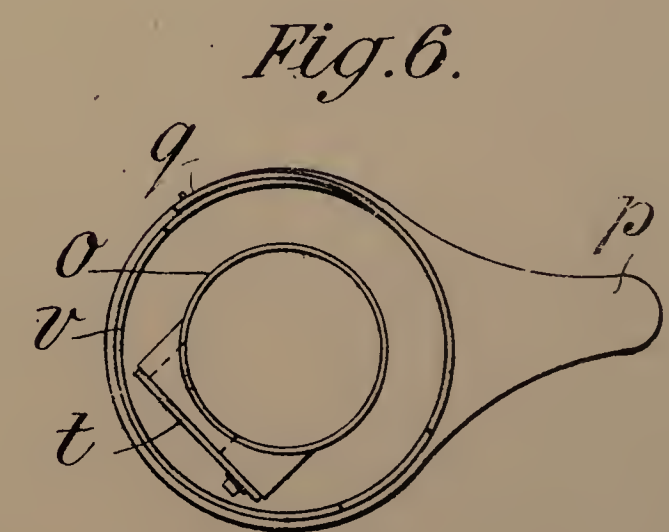
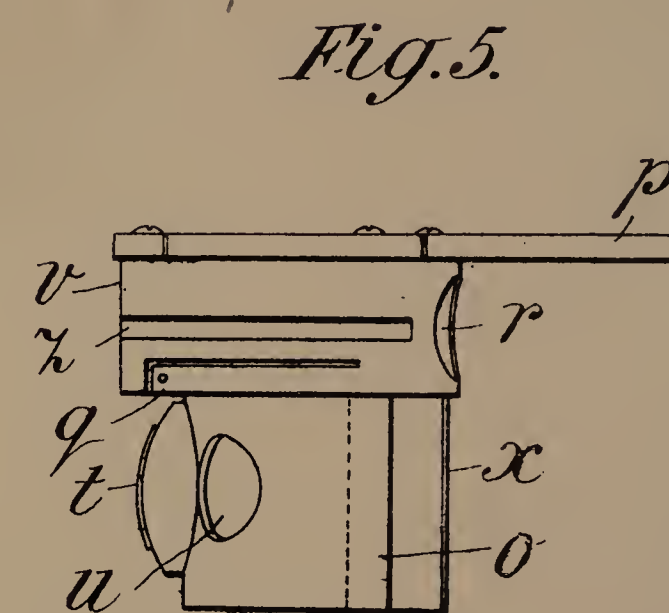
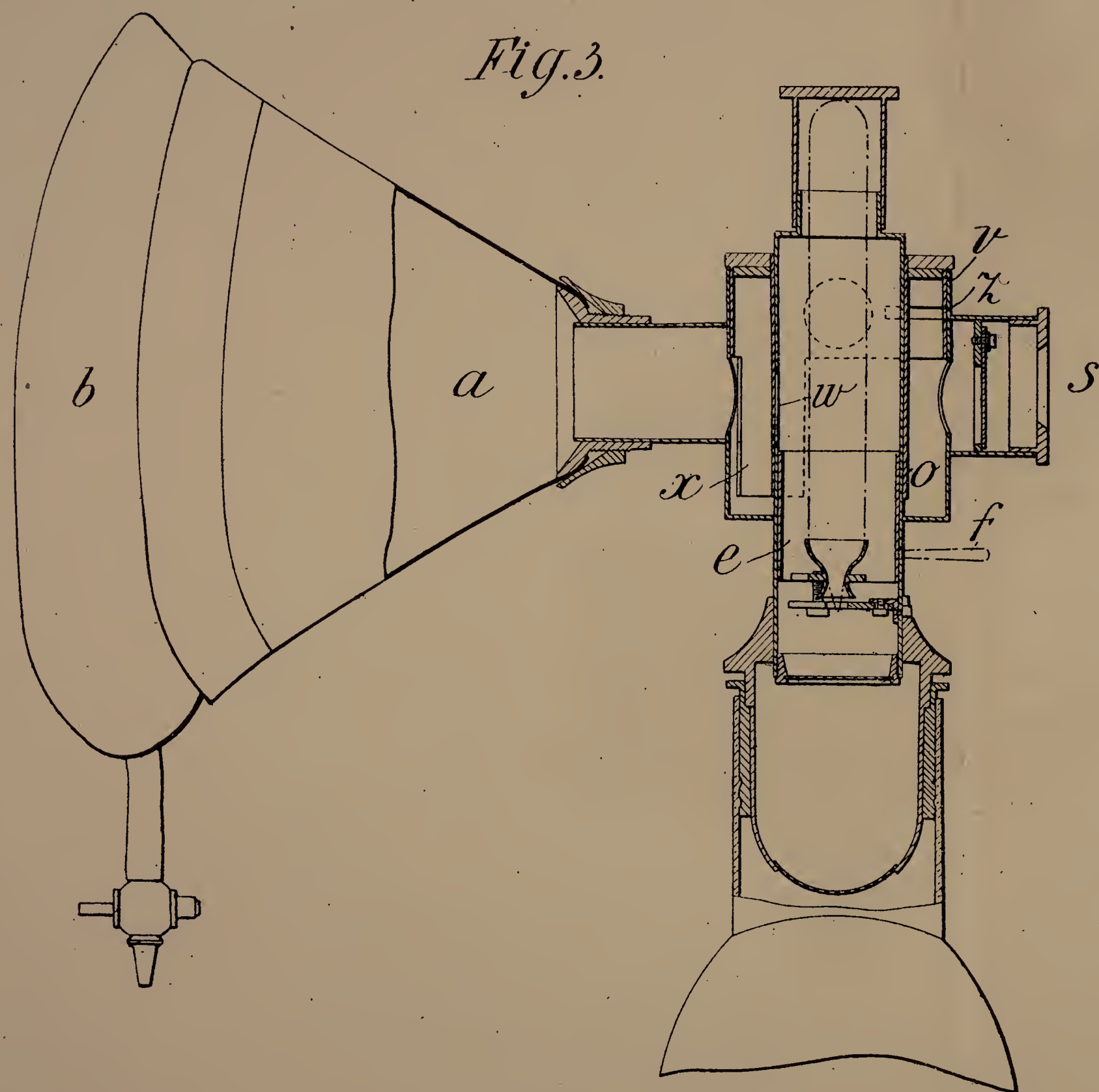


Fig. 2.





[This Drawing is a reproduction of the Original on a reduced scale]

